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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,259	10/05/2004	David H. Evans	GB 020037	9524

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
PHAN, TRI H	

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
10/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/510,259	EVANS ET AL.	
	Examiner	Art Unit	
	Tri H. Phan	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Communication(s)

1. This office action is in response to the Application filed on October 5th, 2004. Claims 1-11 are now pending in the application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

3. Claims 6 and 11 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 6 and 11 have not been further treated on the merits.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by **Proctor, Jr. et al.** (U.S.7,002,902; hereinafter refer as '**Proctor**').

- In regard to claims 1 and 7, **Proctor** discloses a system and method for operation in the radio communication (wherein the "receiver" is disclosed in figs. 6A-B), which comprise *a plurality of antennas for receiving signals originally transmitted as a plurality of different signals* ('antenna array 255' in fig. 6A; for example see col. 3, lines 21-25; col. 8, lines 24-30), *coding means for applying a respective unique code to the signal received by each antenna* ('modulator 330 and Walsh generator 320' in fig. 6A; for example see col. 3, lines 25-28; col. 8, lines 31-35; wherein each received RF signal is modulated with Walsh code, e.g. "*respective unique code*", by the modulator 330), *summing means for combining the plurality of coded signals into a single signal* ('Summer Wilkenson combiner 632' in fig. 6A; for example see col. 3, lines 29-30; col. 8, lines 36-44; where the coded RF signals are summed together to form a composite, coded RF signal, e.g. "*single signal*"), *frequency translation means for translating the frequency of the single signal to a lower frequency* ('receiver & A/Ds 635' in fig. 6A; for example see col. 3, lines 32-36; col. 8, lines 45-54; wherein the composite-received signal at RF is converted into a composite baseband digital signal, e.g. "*translating the frequency of the single signal to a lower frequency*") *and extraction means for extracting a plurality of signals from the frequency-translated single signal by reference to the unique codes employed by the coding means* ('received modules 640' in figs. 6A-B, e.g. "*correlators*" as claimed in claims 6 and 11; for example see col. 3, lines 37-45; col. 8, line 55 through col. 9, line 35; where the composite baseband digital signal is extracted to subset of signals, which are modulated with corresponding

Walsh codes and weights, e.g. "*extracting signals from the frequency-translated single signal by reference to the unique codes*", to produce a predetermined spatial beam forming effect or beam pattern).

- Regarding claims 2-3 and 8-9, **Proctor** further discloses wherein *the respective unique codes are orthogonal codes, Walsh codes* (for example see col. 3, lines 61-62).

- In regard to claims 4 and 10, **Proctor** further discloses wherein *the rate of the unique code is at least N times the symbol rate of the received signals, where N is equal to the number of antennas* (for example see fig. 6A; col. 8, lines 31-44; wherein the coded RF signals in step 2 are summed to form a composite, coded RF signal, which is N times of N elements of the antenna array or "*the rate of the unique code is at least N times the symbol rate of the received signals*" as specified in col. 7, lines 43-59; and where i indexes represent the elements in the antenna array in the equation, e.g. "*where N is equal to the number of antennas*").

- Regarding claim 5, **Proctor** further discloses, wherein *the first Walsh code, wal(0,.theta.), is not used* (for example see fig. 7; col. 9, lines 35-55; where the diagonal codes are 'zeroed out', e.g. "*not used*", for orthogonal quality of the Walsh codes).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sugar et al. (U.S.6,687,492) and **Affes et al.** (U.S.6,975,666) are all cited to show devices and methods for improving the performance of radio frequency communication architectures with antenna diversity, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tri H. Phan/
October 11, 2007

CHI PHAM
SUPERVISORY PATENT EXAMINER 10/11/07